CLAIMS

1. A terminal for generating an electromagnetic field adapted to communicating with at least one transponder entering this field, including:

an oscillating circuit adapted to being excited by a high-frequency remote supply signal of the transponder;

a phase demodulator for detecting possible data transmitted by the transponder by modulating, at a rate of a sub-carrier, a load that it forms on the terminal's oscillating circuit;

and including:

means for regulating a signal phase in the terminal's oscillating circuit in response to a reference value having a long response time as compared to said sub-carrier;

means for measuring variables linked to a current in the oscillating circuit and to the voltage thereacross; and

means for comparing present values of these variables with predetermined values.

2. The terminal of claim 1, further including:

means for deactivating said phase regulation means; and

means for forcing a value of a settable element of the oscillating circuit.

3. The terminal of claim 2, wherein said settable element is formed of a variable capacitive element of the oscillating circuit of the terminal.

4. The terminal of claim 2, wherein the settable element is common to the phase regulation means and to the forcing means.

5. A method for controlling the terminal of claim 1, including exploiting the results of the comparison means to detect the presence of a transponder in the terminal's field.

6. The method of claim 5, wherein said predetermined values correspond to values measured and stored during an off-load operation of the terminal, while no transponder is present in its field.

7. The method of claim 5, including, in the absence of a useful signal of sufficient amplitude to enable detection of data by the demodulator and if a transponder has been detected by the comparison of the current and predetermined values, of:

deactivating the phase regulation means; and

forcing the value of the settable element of the oscillating circuit to a value adapted to modifying an impedance of the terminal's oscillating circuit while maintaining the transponder's remote supply.

8. The method of claim 7, wherein the forcing value is selected to avoid for said variables to recover said predetermined values.

9. The method of claim 8, including, to select the forcing value, of:

calculating a present imaginary part of an impedance of the terminal's oscillating circuit; and

comparing the current module of this imaginary part with a predetermined limiting value for:

a) if the current module is greater than the limiting value, choosing a forcing value giving to the impedance of the oscillating circuit an imaginary part of same module but of opposite sign with respect to the current imaginary part, or

b) if the current module is smaller than or equal to the limiting value, choosing a different forcing value according to whether the current imaginary part is positive or negative.

10. The method of claim 9, including, in case b, selecting a forcing value depending on the off-load value of the setting element with a proportionality coefficient which:

a') if the present imaginary part is negative, is greater than one; and

b') if the present imaginary part is positive, is smaller than one.

11. The method of claim 9, including selecting a forcing value $C1_f$ which:

a') if the present imaginary part is negative, respects the following relation:

$$C1_f = \frac{C1_{off-load}}{1-k_{max}^2}$$; and

b') if the present imaginary part is positive, respects the following relation:

$$C1_f = \frac{C1_{off-load}}{1 + k_{max}^2},$$

where $C1_{off\text{-}load}$ represents the off-load capacitance of the setting element and where k_{max} represents the maximum coupling coefficient between the transponder and the terminal.